

GRADIENT NON-LINEARITY COMPENSATION MOVING TABLE MRI

ABSTRACT

The present invention includes a method and apparatus to correct for gradient field distortions. The invention is particularly applicable in moving table imaging where a single extended image is desirable. The invention includes acquiring MR data in motion in the presence of gradient non-linearities, transforming the MR data acquired into the image domain, and then applying a warping correction function to the transformed MR data. The warp-corrected MR data is then corrected for motion induced during the MR acquisition. The data may be acquired point-by-point, line-by-line, or another sub-portion of the entire MR data acquired, and processed to minimize the amount of motion correction needed. Based on table velocity or acquisition sequence applied, the data is partitioned based on a common motion correction factor, and after correcting for motion, the data is accumulated to build up a final image.